

CLAIMS

1 1. An apparatus for providing additional processing power to a portable, wireless,
 2 communication device, the apparatus comprising:
 3 a housing detachably connectable to the portable, wireless, communication
 4 device; and
 5 digital circuitry carried by the housing and operable to assist electronic
 6 components of the portable, wireless, communication device in processing digital
 7 information to increase a data rate of a wireless communication link.

1 2. The apparatus as in claim 1 wherein the portable, wireless, communication device
 2 comprises any of a cellular telephone, a two-way radio, and a personal digital assistant
 3 (PDA) for processing wireless communication signals.

1 3. The apparatus as in claim 2 wherein the wireless communication link comprises a
 2 cellular telephone communication link between a base station and the portable,
 3 wireless, communication device.

1 4. The apparatus as in claim 2 wherein the housing and the digital circuitry comprise
 2 a computer controlled by a microprocessor.

1 5. The apparatus as in claim 2 further comprising a power source carried by the
 2 housing and operable to supply additional DC power to the portable, wireless,
 3 communication device, wherein the portable, wireless, communication device is
 4 operational to alter functionality of the portable, wireless, communication device
 5 when coupled to the power source.

1 6. The apparatus as in claim 2 further comprising an interconnect for coupling the
 2 electronic components of the portable, wireless, communication device to the digital
 3 circuitry.

1 7. The apparatus as in claim 6 wherein the interconnect comprises a short range
 2 wireless link.

1 8. The apparatus as in claim 2 further comprising memory for storing data resulting
2 from the wireless communication link.

1 9. The apparatus as in claim 8 wherein the data resulting from the wireless
2 communication link comprises coded information resulting from operation of
3 incremental redundancy.

1 10. The apparatus as in claim 1 wherein the portable, wireless, communication device
2 is capable of communicating at a first data rate and a second data rate, the second data
3 rate faster than the first data rate, the digital circuitry for aiding communication at the
4 second data rate.

1 11. The apparatus as in claim 1 further comprising a computer detachably
2 connectable to any of the portable, wireless, communication device and the digital
3 circuitry.

1 12. The apparatus as in claim 1 wherein the digital circuitry is configured to perform
2 at least a portion of a predetermined digital compression algorithm.

1 13. The apparatus as in claim 1 wherein the digital circuitry is configured to perform
2 incremental redundancy coding operations.

1 14. An apparatus for a cellular telephone, the apparatus comprising:

2 a digital circuitry adapted to provide additional digital processing capability
3 to the cellular telephone for increasing a maximum possible data rate of a cellular
4 communication link; and

5 an interconnect adapted to detachably couple the digital circuitry to the cellular
6 telephone and to assist in transferring information between the cellular telephone and
7 the digital circuitry.

1 15. The apparatus as in claim 14 wherein the cellular telephone is capable of
2 communicating at a first data rate and a second data rate, the second data rate faster
3 than the first data rate, the digital circuitry for facilitating the cellular telephone in
4 communicating at the second data rate.

5 16. The apparatus as in claim 15 wherein the digital circuitry comprises any of a
microprocessor, a digital signal processor (DSP), and a micro-controller.

1 17. The apparatus as in claim 14 further comprising memory for storing digital data
2 resulting from the cellular communication link.

3 18. The apparatus as in claim 17 wherein the digital data results from incremental
4 redundancy coding.
5

1 19. The apparatus as in claim 14 further comprising a cradle housing for carrying the
2 digital circuitry and the interconnect, the cradle housing formed to have a cavity sized
3 for receiving a portion of the cellular telephone.

1 20. The apparatus as in claim 14 further comprising a power supply coupled to the
2 interconnect, the power supply to provide additional DC power to the cellular
3 telephone to alter functionality of the cellular telephone.

1 21. The apparatus as in claim 14 wherein the interconnect comprises any of a
2 wireless, radio frequency (RF) interconnect and an infrared interconnect.

1 22. The apparatus as in claim 14 wherein the digital circuitry is adapted to assist the
2 cellular telephone in performing any of a digital compression algorithm and an
3 incremental redundancy operation.

1 23. The apparatus as in claim 22 wherein the cellular telephone is adapted to operate
2 in a time division multiple access (TDMA) communication system and process a first
3 set of predetermined time slots of information, the digital circuitry adapted to process
4 a second set of predetermined time slots of information, at least one of the second set
5 different from the first set.

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1 24. A cradle for a portable, wireless, communication device, the cradle comprising:
 2 digital processing circuitry for enhancing the portable, wireless,
 3 communication device's ability to process information at a high data rate; and
 4 an interconnect for transferring the information between the cradle and the
 5 portable, wireless, communication device.

1 25. The cradle as in claim 24 wherein the portable, wireless, communication device
 2 comprises a cellular telephone operable to communicates via a cellular telephone
 3 network, the digital processing circuitry to increase a number of time slots of
 4 information that the cellular telephone can decode.

1 26. The cradle as in claim 24 wherein the portable, wireless, communication device
 2 comprises a wireless telephone operable to communicates via a code division multiple
 3 access (CDMA) communication system, the wireless telephone operable to decode
 4 CDMA communication signals at a higher data rate when the wireless telephone is
 5 coupled to the cradle than when the wireless telephone is not coupled to the cradle.

1 27. The cradle as in claim 24 wherein the interconnect comprises a wireless
 2 interconnect, the wireless interconnect including any of a radio frequency (RF)
 3 interconnect and an infrared interconnect.

1 28. The cradle as in claim 24 wherein any of the digital processing circuitry and the
 2 portable, wireless, communication device are adapted to electronically couple to a
 3 computer, the cradle for performing at least some of the digital processing tasks of the
 4 computer.

1 29. The cradle as in claim 24 wherein any of the digital processing circuitry and the
 2 portable, wireless, communication device are adapted to electronically couple to a
 3 personal digital assistant (PDA), the cradle for performing at least some of the digital
 4 processing tasks of the PDA.

1 30. A cellular telephone comprising:

2 a battery detachably connectable to the cellular telephone to supply the cellular
3 telephone with power; and

4 a remote power source detachably connectable to the cellular telephone,
5 wherein the cellular telephone is adapted to sense when the remote power source is
6 coupled to the cellular telephone, the cellular telephone to alter a cellular telephone
7 capability responsive to sensing the remote power source coupled to the cellular
8 telephone.

1 31. The cellular telephone as in claim 30 wherein the battery is operational to
2 deliver a first predetermined voltage level to the cellular telephone, the remote power
3 source operational to deliver a second predetermined voltage level to the cellular
4 telephone, the second predetermined voltage level greater than the first predetermined
5 voltage level.

1 32. The cellular telephone as in claim 30 wherein the cellular telephone is
2 configured to transmit at a higher average transmit power when the cellular telephone
3 is coupled to the remote power source.

1 33. A cellular telephone operational to communicate with at least one remote base
 2 station via a communication link, the cellular telephone comprising:
 3 a cellular telephone housing;
 4 digital electronic circuitry carried by the cellular telephone housing for
 5 processing signals transmitted between the cellular telephone and the at least one
 6 remote base station via the communication link; and
 7 remote circuitry detachably coupled to the digital electronic circuitry to alter a
 8 mode of operation of the cellular telephone,
 9 wherein when the remote circuitry is coupled to the digital electronic
 10 circuitry, the cellular telephone provides an indication to the at least one remote base
 11 station of an alteration in the mode of operation of the cellular telephone.

1 34. The cellular telephone as in claim 33 wherein coupling the remote circuitry to the
 2 digital electronic circuitry increase a rate of transfer of data between the cellular
 3 telephone and the at least one remote base station via the communication link.

1 35. The cellular telephone as in claim 33 wherein the digital electronic circuitry
 2 comprises at least a portion of a code division multiple access (CDMA) demodulator,
 3 and the remote circuitry comprises additional CDMA demodulation circuitry.

1 36. The cellular telephone as in claim 33 wherein the remote circuitry is operational
 2 to assist the cellular telephone in processing a plurality of time slots of information
 3 transferred via the communication link via a time division multiple access (TDMA)
 4 cellular standard.